DIRECTOR OF CENTRAL INTELLIGENCE
Intelligence Information Handling Committee
WASHINGTON, DC 20505

0 4 NOV 1988

CMTE 6 SK

ICS 7879-88   STAT
2 November 1988

MEMORANDUM FOR: MCDS Architecture and Communications (A&C) Working Group

SUBJECT: A&C Working Group Meeting, 10 November 1988

    1. The next meeting of the A&C Working Group will be held from 1330-1530
on Thursday 10 November 1988

    2. The agenda will be as follows:

        a. Discussion of responses to enclosed working papers.

        b. Discussion and agreement on issues upon which consensus
            can be reached; agreement on questions requiring further
            study.

        c. Review and approval of Draft of Assumption and issues to be
            forwarded to other working groups.

        d. Agreement on actions to be taken by A&C Working Group to resolve
            outstanding questions and issues.

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                                    Co-Chairman, MCDS A&C WG

Attachments:
  A&C WG Working Papers

SUBJECT: A&C Working Group Meeting, 10 November 1988

Distribution: ICS 7879-88
  1 - CIA/OIT [   ]   STAT
  1 - Coast Guard (E. Gies)
  1 - DIA [   ]   STAT
  1 - DIA/DSM-2
  1 - DIA/DC5C
  1 - STATE/OC/FO (R. Surprise)
  1 - STATE/OC/T (R. White)
  1 - NSA
  1 - NSA   STAT
  1 - NSA
  1 - LOGICON (M. Corrigan)
  1 - IHC Subj
  1 - IHC Chrono
  1 - ICS Reg

DCI/ICS/IHC/ [   ] (2Nov88)   STAT

WORKING PAPER

Architecture and Communications WG
Questions/Issues
10/28/88

1. What cpu should be assumed, IBM 3083 -   Logicon - tbd last
    3081 - 3090?

2. What OS? - VM vs. MVS (B-1)   A&C & Security WGs

3. What text search system?   A&C WG - Logicon

4. What DBMS(s)? SQL/DS - other?   A&C WG - Logicon

5. Will AIM be retained or PROFS or other   A&C WG - Logicon
    COTS software substituted?

6. Number & locations of MCDS users/   User & Conops WGs
    workstations/printers.

7. Are there requirements for MCDS   User & Conops WGs
    workstations to communicate with other
    systems? If so, which systems?

8. If MCDS workstations communicate with   A&C & Security WGs
    other systems, can this be done securely
    using Compartmented Mode Workstations?

9. What MCDS functions should be supported   A&C WG - Logicon
    on MCDS workstations?

10. Given the answers to 6,7,8 & 9, what   A&C WG - Logicon
    workstation(s) & what workstation
    software packages should be assumed?

11. Will local print actions be required to   A&C, Security & Conops
    be controlled centrally, audited   WGs (Logicon-feasibility)
    centrally, at what degree of granularity?

12. What degree of TEMPEST protection will   User & Security WGs
    be required of MCDS workstations?

13. What electrical data input requirements   User and A&C WGs
    exist for MCDS that cannot be satisfied
    through the existing DESIST/CDS link?

14. How can security requirements for   A&C & Security WGs
    additional electrical data inputs be met?   (Logicon)

A&C WG - Questions/Issues - 10/28/88

15. In addition to current DESIST e-mail,   User WG
    what analyst to analyst communication
    capabilities are required for MCDS?

16. How can any additional analyst to   A&C & Security WGs -
    analyst communications requirements   Logicon
    best be implemented so as to assure
    isolation of FLASHBOARD only MCDS users
    from other MCDS functions together
    with enhanced auditing?

17. What should be the MCDS/DoDIIS connection   A&C WG, DIA, Bartee
    strategy?

18. What additional security protection   A&C & Security WGs, DIA,
    features will be required to use   DCA, NSA - Bartee
    the DoDIIS network?

19. What are the MCDS requirements for   User & A&C WGs - Logicon
    image processing and how can these
    be satisfied?

20. What additional structured data bases   User WG
    should be planned for inclusion in MCDS
    and what are their characteristics?

21. What are the on-line retention requirements   User WG
    for textual data bases by type and what are
    the requirements for retrieval when taken
    off-line?

WORKING PAPER DRAFT - 10/26/88

MCDS ARCHITECTURE AND COMMUNICATIONS WG

INITIAL PLANNING ASSUMPTIONS AND ISSUES

In order to demonstrate the feasibility of the development of an MCDS system which will be capable of supporting the functional requirements of MCDS while meeting the security constraints which will be imposed upon its operation and to provide a programmatic level cost estimate of its development and operation, it is necessary that the Architecture and Communications WG postulate a high level hardware and software architecture which the group can agree will meet these criteria.

It should be stressed that the adoption of any facet of a proposed architecture for planning and programmatic purposes is not intended in any way to constrain the ultimate developers in the adoption of alternate means to satisfy the validated functional requirements of an MCDS system if and when a contract is eventually entered into with a systems integrator for the design, development and fielding of the MCDS system.

The following is intended as an initial draft document designed to outline the types of assumptions which must be made and begin the process of defining the issues which must be resolved, either by the A&C WG or the other MCDS WGs, in order to support the drafting of a final report by the A&C WG. In this initial working paper some candidate issues have been suggested which may not require being addressed in any detail in order to support an architecture at the level which is required for the purposes of this study. A part of the issue definition phase of the work will be to identify and exclude from further consideration any such issues.

I. The fundamental assumption upon which the A&C WG should proceed is that the MCDS system will be developed incrementally through enhancements to the existing DESIST system, using commercial off the shelf (COTS) products to the maximum extent feasible. The hardware and software products to be utilized in the central system should be as compatible as possible with the hardware and software now generally being supported by CIA/OIT, which will be responsible for the operation and maintenance of the central MCDS system. To the extent that special purpose software is required, maximum utilization will be made of existing government developed software.

   A. The central system processor will be based upon an IBM 370 architecture. The current DESIST cpu may require upgrading or replacement by a 3090 class cpu, depending upon estimates of the increase an processing load anticipated after taking into account the additional users and functions which MCDS will be required to support.

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B. To the extent that it is capable of supporting required additional functionality and meeting the security constraints within which it is anticipated that MCDS will operate, the existing software suite of the DESIST system will be utilized including the VM operating system and the DS/SQL DBMS. Security must be enhanced, at a minimum by implementing a COTS package such as ACF-2, RACF or Top Secret. For initial planning purposes the use of ACF-2 will be assumed. Improved full text retrieval and profiling capabilities will be provided through the use of a COTS software package such as INQUIRE TEXT or STAIRS or through the use of text search hardware such as TRW's Fast Data Finder or G.E.'s GESCAN.

ISSUES:

1. Which text search software/hardware approach should be assumed for planning purposes?

2. Should the continued use of AIM be assumed or should its replacement by COTS office automation software such as IBM's PROFS be assumed for planning purposes? What new software will have to be written, either to enhance AIM or to integrate COTS software?

3. Will password access control to the central system such as that provided by ACF-2 be sufficient or will additional access control measures be required, giving consideration to the access control facilities to be employed for gaining access to the workstations? If additional access control is to be required, what should be assumed for planning purposes?

II. For planning purposes it will be assumed that the MCDS user population will comprise the current set of users of both DESIST and FLASHBOARD plus some additional users, both within the Washington area and at a relatively small number of the U&S Commands. The standard MCDS user workstation will be assumed to be PC based. This will permit the distribution of user support functions to the workstation to the extent feasible within security constraints.

ISSUES:

1. What will be the total number of MCDS terminals/users which should be assumed for planning purposes and where will these be located?

2. Is there a requirement for any of the MCDS workstations to be able to communicate with other systems, internally within CIA, externally with other non-CIA systems such as DITDS? If so what are they and how can this be accomplished within security constraints applicable to the MCDS system?

3. Should it be assumed that some MCDS workstations be capable of hosting the DIA/NCSC compartmented mode workstation software? If so, what percentage of the total workstation complement will require this capability. If not, what type of PC based workstation should be adopted for planning purposes?

4. What additional security protection, if any, will be required for MCDS workstations - a security package such as WATCHDOG - additional access and authentication devices such as biometric devices (e.g. IDENTIX or FINGERMATRIX) or smartcards - disc encryption?

5. Will there be some users of the system who will only be permitted to access FLASHBOARD like facilities? If so, what percentage of the terminals will be FLASHBOARD only and should we assume the continued utilization of present FLASHBOARD terminals for this purpose?

6. What types of user support software packages should be assumed to be required for MCDS user terminals - word processing, spreadsheet, graphics, DBMS, windows, other?

7. Is there a requirement that some MCDS terminals be capable of providing publication support? If so, how many and what type of terminal equipment and software should be assumed for planning purposes?

8. What type of local printers will be required in user spaces, how many will be required, will all local print actions be required to be: a. controlled by the central system, b. audited by the central system, and to what degree of granularity will auditing of print functions be required?

9. To what extent will MCDS workstation equipment require TEMPEST protection.

III. It will be assumed that record message traffic input to the MCDS will continue to be provided to MCDS through the CIA's CDS the same manner as it now enters the DESIST system.

ISSUES:

1. Are there any electrical data input requirements for MCDS which cannot be satisfied through the existing CDS input link? (e.g. newswires). If so, what are they and how can the required input links be established and maintained securely?

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2. Are there any requirements for updates to data bases acquired from systems external to MCDS which cannot or should not be entered through the medium of tape or disk transfers? If so, what are they and how can this be accomplished by electronic downloads within the security constraints applicable to the system?

IV. It will be assumed that most, if not all, Washington area MCDS users can be supported through the medium of the existing DESIST or FLASHBOARD communications paths. To the extent that this is not feasible or practical, dedicated encrypted links can be provided over leased lines.

ISSUES:

1. Is the security protection and quality of service now afforded DESIST or FLASHBOARD communications over shared communications facilities adequate to support the proposed MCDS concept of operations?

2. To what extent can existing FLASHBOARD communications arrangements be adapted to provide MCDS connectivity to FLASHBOARD users not now part of the DESIST user community?

V. It will be assumed that MCDS users outside the Washington Area will connect with MCDS through the DoDIIS Network. The MCDS community on DoDIIS will be connected so as to constitute a separate community of interest..

ISSUES:

1. What MCDS/DoDIIS connection strategy should be assumed for planning purposes.

2. What additional security protection features will be required to create a separate community of interest for MCDS users on the DoDIIS network?

VI. It is assumed that MCDS will provide analyst to analyst communications at least equivalent to FLASHBOARD. What enhancements, if any, are required to the current DESIST e-mail capabilities to achieve this? Should planning include any enhancements to current FLASHBOARD services (e.g. multi-party teleconferencing, improved auditing and review capabilities)?

VII. The Logicon study includes requirements for storing, processing and access to imagery material. Should the A&C WG include support for this type of function in its planning? If so, what are the types of imagery material which must be handled (e.g. maps, charts, blueprints, photographs) and what are the priorities associated with the various types of imagery materials which are candidates for additions to the system?

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